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Pesticide Fact Sheet Number 88: Fluometuron

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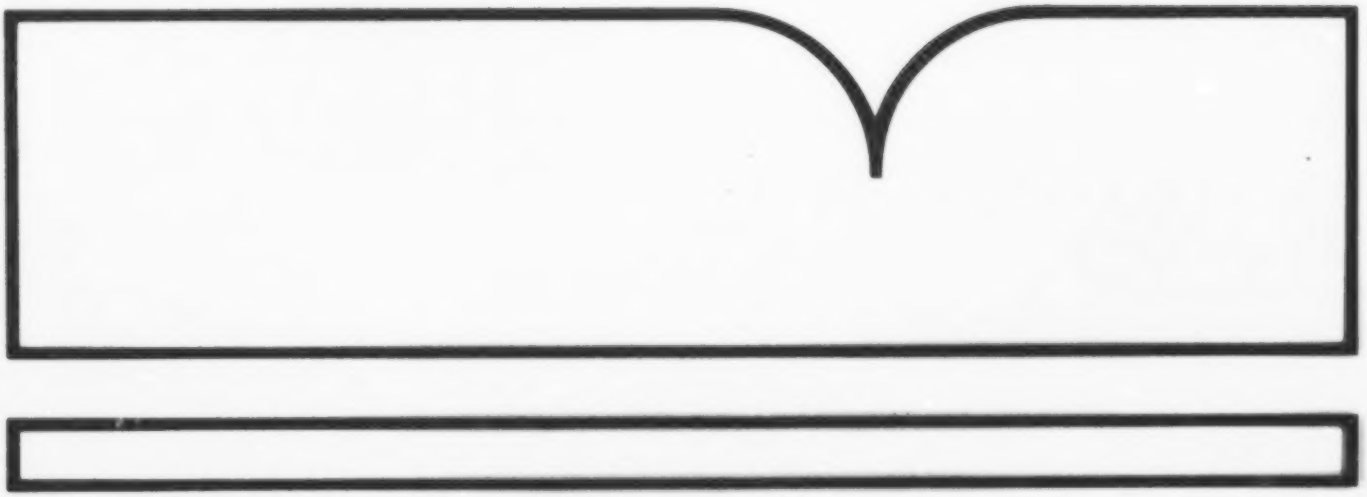

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15. Supplementary Notes

16. Abstract (Limit: 200 words)

This document contains up-to-date chemical information, including a summary of the Agency's regulatory position and rationale, on a specific pesticide or group of pesticides. A Fact Sheet is issued after one of the following actions has occurred.

1. Issuance or reissuance of a registration standard,
2. Issuance of each special review document,
3. Registration of a significantly changed use pattern,
4. Registration of a new chemical, or
5. An immediate need for information to resolve controversial issues relating to a specific chemical or use pattern.

17. Document Analysis a. Descriptors

Pesticides, regulations, Chemical Information Fact Sheet, Use Patterns, Science Findings

b. Identifiers/Open-Ended Terms

c. COSATI Field/Group

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Office of Pesticide Programs (TS-788C)
Washington, DC 20460

EPA

Pesticide Fact Sheet

Name of Chemical: Fluometuron
Reason for Issuance: Registration Standard
Date Issued: December 1985
Fact Sheet Number: 88

1. Description of chemical

Generic name: FLUOMETURON (ANSI, WSSA, BSI, ISO)

Trade name: Cotoran®, Lanex®

EPA Shaughnessy code: 035503

Chemical Abstracts Service (CAS) number: 2164-17-2

Year of initial registration: 1960

Pesticide type: Herbicide

Chemical family: Substituted urea

U.S. and foreign producers: Ciba-Geigy, FBC Chemicals

2. Use patterns and formulations

Application sites: To selectively control certain annual grasses and broadleaf weeds in cotton and sugarcane.

Formulations: Flowable liquid concentrate and wettable powder.

Types and methods of application: Postemergent directed or over-the-top spray, preplant soil incorporated, preemergent broadcast or banded spray, a directed layby treatment, and aerial application.

Application rates: Cotton 1.0 to 2.0 pounds of active ingredient per acre with one to three applications per season, sugarcane 2.0 to 4.0 pounds of active ingredient per acre with one to two applications per season.

3. Science findings

Summary science statement: Fluometuron has been found to have many data gaps and to be a potential ground water contaminant.

Fluometuron is not acutely toxic in general, however, it does produce some skin irritation and does induce corneal opacity.

Chemical Characteristics:

Physical State: Powder or crystals

Color: White to tan

Odor: Amine-like

Melting Point: 163 to 164.5

Specific Gravity or Density: 1.40 g/cm^3 @ 20 °C

Solubility

Solvent	20 °C
Water	105 ppm
Acetone	15%
Chloroform	2%
Methanol	14%
Hexane	< 4%

Vapor Pressure: 5 x 10 mmHg @ 20 °C

Octanol/Water Partition Coefficient: PK = 3.2 @ 20 °C

Stability: Hydrolyzed by acid or base. Stable at room temperature.

Toxicological Characteristics:

Acute Effects:

Acute Oral Toxicity: 8.9 gm/kg male rats
7.8 gm/kg female rats
Toxicity Category IV

Acute Dermal Toxicity: 3.03 gm/kg rabbits
Toxicity Category III

Acute Inhalation: > 2.07 mg/L
Toxicity Category III

Primary Eye Irritation: Induces corneal opacity.
Toxicity Category: I

Major Routes of Exposure: Dermal, inhalation

Subchronic Effects:

The NOEL for rats is 7.5 mg/kg

The NOEL for dogs is 400 ppm

Chronic Effects:

No adequate feeding studies are available to establish the chronic toxicity potential of technical Fluometuron.

Oncogenicity: Data gap

Teratogenicity: The compound is not teratogenic up to 500 mg/kg. No LeL can be established based on current data.

2-Generation Reproduction: Data Gap

Mutagenicity: Data Gap

Physiological and Biochemical Behavioral Characteristics:

Metabolism: Data Gap

Environmental Characteristics:

Preliminary Adsorption and Leaching Characteristics:

Fluometuron is moderately to very mobile in a variety of soils ranging in texture from sand to silty clay loam. These characteristics are not adequately understood.

Resultant Average Persistence:

Fluometuron dissipates in sandy clay loam with a half-life of < 30 days (Europe).

Ecological Characteristics:

Hazards to Birds:

Data are sufficient to characterize fluometuron as slightly to practically nontoxic to birds.

Hazards to Fish: Data Gap

Tolerance Assessment:

List of Crops and Tolerances: (CFR 40 180.229)

Commodity	ppm
Cottonseed	0.1
Sugarcane	0.1

Results of Tolerance Assessment:

Tolerances cannot be adequately assessed until data gaps have been filled.

4. Summary of Regulatory Position and Rationale:

Based on review and evaluation of all available data and other relevant information on fluometuron, the agency has made the following determinations:

The available data are insufficient to indicate that any of the risk criteria listed in § 162.11(a) of title 40 of the U.S. Code of Federal Regulations have been met or exceeded for the uses of fluometuron at the present time.

Fluometuron is a toxicity category I chemical regarding corneal opacity. Skin irritation places fluometuron in toxicity category II. However the agency has determined that the protective clothing required by this standard will sufficantly reduce the risk associated with its use.

The absence of other toxicological data prevents the agency from determining the subacute and chronic effects of fluometuron. Given the lack of data, the most appropriate action is to move quickly to fill the data gaps. When data are submitted and reviewed, the agency will determine the registerability of the affected use pattern.

Fluometuron tolerances for cotton and sugarcane will be reevaluated when the requested data in the standard are received and reviewed. The data base supporting these tolerances is inadequate. The data required to fill these data gaps are listed under number 6, Summary of Major Data Gaps, on this fact sheet.

Tolerances for fluometuron on meat, milk, poultry, and eggs have not been established therefore the label restrictions on feeding crop material to livestock will remain on product labeling.

Fluometuron has been placed on the list of possible ground water contaminants and the Agency has requested ground water data on an accelerated basis under the data-call-in program.

Use, Formulation or Geographic Restrictions:

Manufacturing-use products may only be formulated into end-use products intended for use as an herbicide on cotton and sugarcane.

5. Unique Label Warning Statements:

Labels of all MPs must bear the statement:

Use Pattern Statements

For formulation into end-use herbicide products intended for use on cotton and sugarcane.

Precautionary Statements

Do not contaminate water by cleaning of equipment or disposal of wastes.

Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or public waters unless this product is specifically identified and addressed in an NPDES permit. Do not discharge effluent containing this product into sewer systems without previously notifying the sewage treatment plant authority. For guidance contact your State Water Board or regional office of EPA.

Labels of EPs must bear the statements:

Hazards to Humans Statements:

Mixer/loader/applicators must wear protective clothing, consisting of coveralls, a long-sleeved shirt, shoes, impermeable gloves, and eye protection when handling this product.

Environmental Hazard Statements:

The labels of EPs intended for outdoor use must bear one of the following statements, depending on the formulation of the product.

Granular products must bear the statement:

Do not apply directly to water or wetlands. In case of spills, collect for use or properly dispose of the granules. Do not contaminate water by cleaning of equipment or disposal of wastes.

Nongranular products must bear the statement:

Do not apply directly to water or wetlands. Do not contaminate water by cleaning of equipment or disposal of wastes.

All products registered for use on:

Cotton:

Do not feed foliage from treated cotton plants or gin trash to livestock.

Do not apply within 60 days of cotton harvest.

Sugarcane:

Do not apply within 180 days of harvest.

Do not graze treated fields with livestock.

All Products Phytotoxicity Warnings:

Do not plant crops other than sugarcane or cotton within one year after the last application or crop injury may result.

6. Summary of Major Data Gaps:

Dates when major data gaps are due to be filled.

Data Requested	Date Due (After issuance of the Standard)
Product Chemistry	7 Months
Magnitude of the Residues Sugarcane	19 Months
Magnitude of the Residues Cotton	19 Months
Nature of Residue (Metabolism)	25 Months
Hydrolysis	Study under review
Photodegradation	
Water	Study under review
Soil	Study under review
Metabolism-lab	
Aerobic Soil	Study under review
Anaerobic Soil	Study under review
Leaching and Adsorption/ Desorption	Study under review
Soil Dissipation Field	Study under review
Accumulation, Rotational Crops	Study under review
21-Day Dermal	13 Months
Chronic Toxicity	50 Months
Oncogenicity Study	50 Months
Teratogenicity	15 Months
Reproduction	39 Months
Gene Mutation	9 Months

Data Requested (cont.)	Date Due (cont.)
Chromosal Aberration	12 Months
Other Mechanisms of Mutagenicity	12 Months
General Metabolism	24 Months
Freshwater Fish Warmwater	9 Months
Foliar Dissipation	25 Months
Soil Dissipation	25 Months
Dermal Exposure	25 Months
Inhalation Exposure	25 Months
Analytical Methods to Verify Certified limits	13 Months
Submittal of Samples	7 Months
Dermal Sensitization and Photosensitization	9 Months

7. Contact Person at EPA:

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